

# **Fall Prevention**

**KY Department for Public Health  
February 16, 2012**

# Fall Facts

- In a given year, 1 in 3 older adults (65+) can expect to fall.
- Falls are the leading cause of injury and injury-related death for 65+.
- Falls are the leading cause for trauma-related hospital admission for 65+.
- Approximately 1.9 million adults are treated in hospital emergency departments for fall-related injuries.



# Fall Facts, cont.

- 1/3 of nursing home admissions are due to falls.
- Falls jeopardize health and independence of older adults.
- The risk of being seriously injured in a fall increases with age.

# Kentuckians 65+



- Approx. 33,000 older adults were treated for fall-related injuries in KY hospitals in 2010.
- 5,000 older adults hospitalized each year
- More than 150 older adults die each year from the consequences of falls.

# Common Fall-Related Injuries

- Bruises
- Fractures  
(hip, spine, forearm, leg, ankle, pelvis, upper arm, hand)
- Head trauma



# Fear of Falling



It is not uncommon for people who fall (regardless of degree of injury) to develop a fear of falling.

Such fear:

- Limits activity
- Causes increased dependency
- Leads to social isolation

**People are NOT  
falling because they are old**





# Why Older Adults are at Increased Risk for Falling

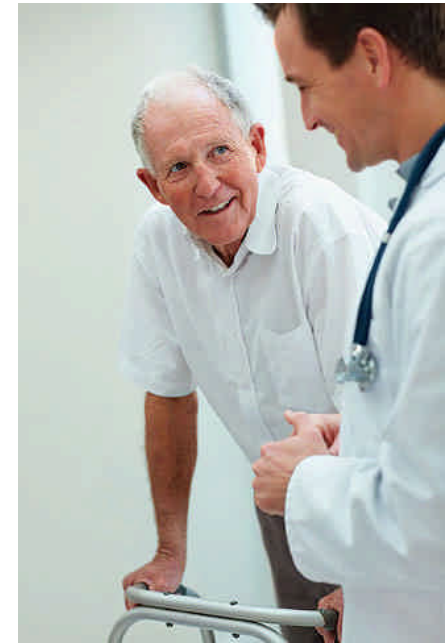


- **Risk Factors:** Something that increases a person's risk or susceptibility to a medical problem or disease:
  - Internal Risk Factors
  - External Risk Factors



# Internal Risk Factors

(originate within a person)



- **Normal age-related changes**
  - (e.g., problems with vision, weaker muscle strength, poor balance, gait problems)
- **Neurological/cognitive disorders**
  - (e.g. gait disorders, stroke, Parkinson's disease, Multiple Sclerosis (MS), traumatic brain injury)
- **Disease/medical problems linked to physical condition**
  - (e.g., heart problems, diabetes, circulatory disease, depression, arthritis, postural hypotension, gastrointestinal problems, reactions to medicine)

# External Risk Factors

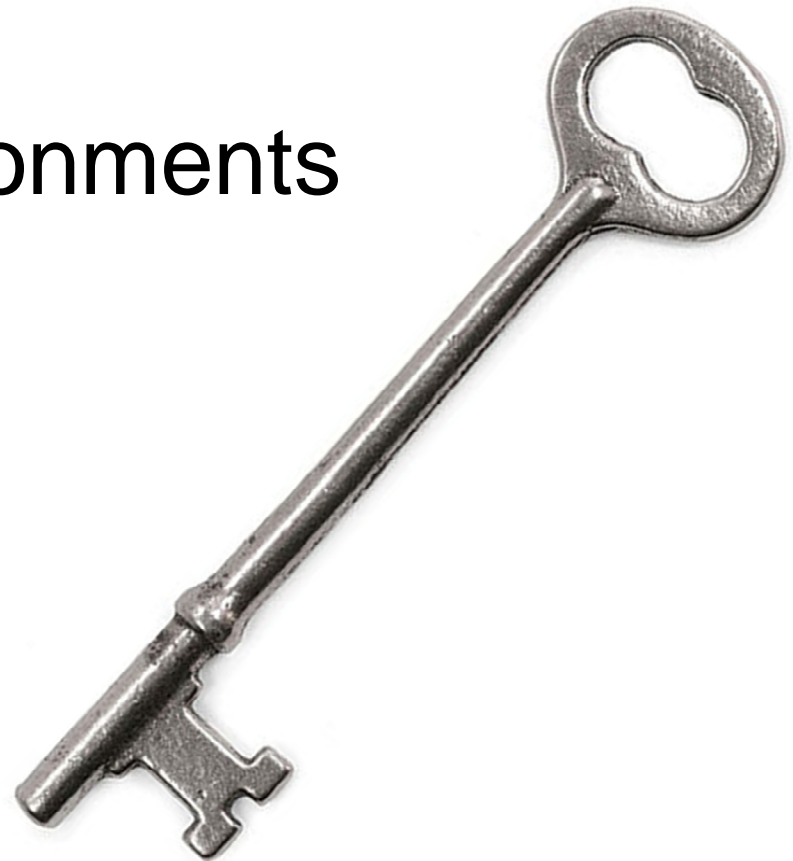
(occur due to outside factors)

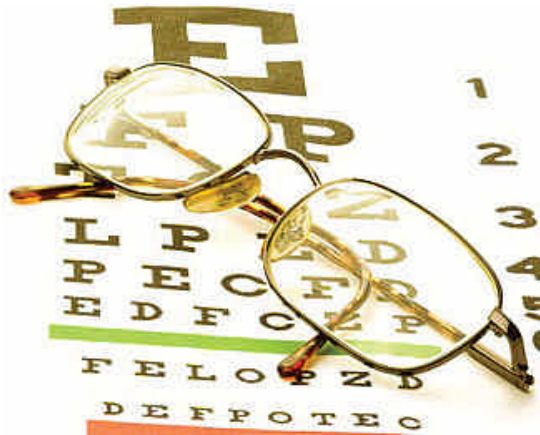
- Physical environment
- Reaction to medication
- Reaction to alcohol
- Assistive devices
- Footwear



# Preventable Risk Factors

- Vision impairments
- Unsafe home environments
- Medication usage
- Lack of physical activity/exercise





## **Common Age-Related Vision Impairments that Lead to Falls:**

- Increased sensitivity to glare and light changes
- Decreased ability to see in dim light
- Decreased ability to see contrast
- Decrease in color sensitivity
- Decreased depth perception
- Decline in visual acuity (sharpness)

# Four Eye Disorders Common to Older Adults

- Cataracts
- Age-related Macular Degeneration (AMD)
- Glaucoma
- Diabetic Retinopathy



# Older Adults and Common Eye Disorders

- Cataract
  - clouding of the natural lens, the part of the eye responsible for focusing light and producing clear, sharp images.
- Age-related Macular Degeneration (AMD)
  - destroys the clear, "straight ahead" central vision necessary for reading, driving, identifying faces, watching television, doing fine detailed work, safely navigating stairs and performing other daily tasks. AMD creates challenges to see contrast and it can change the way color is seen.



Dry AMD

# Older Adults and Common Eye Disorders, cont.

- Glaucoma
  - group of eye diseases in which the optic nerve at the back of the eye is slowly destroyed.
- Diabetic Retinopathy
  - the most common diabetic eye disease and a leading cause of blindness in American adults. It is caused by changes in the blood vessels of the retina.

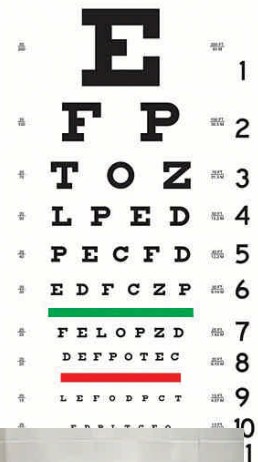




# Vision Impairment and Falls, cont.

## What to do to help prevent falls:

- Sunglasses, wide-brimmed hats, non-glare surfaces, window coverings
- Give eyes time to adapt to light change
- Properly light workspaces, hallways, stairwells, rooms
- Use contrasting colors on walls, stairs, toilets, etc.
- Be familiar with the environment, keep it clutter free, take extra time on steps
- Proper prescription lenses when needed
- Be careful with multifocal lenses
- Regular eye exams



# Home Environment and Falls

50-75% of falls happen in the home due to hazards overlooked every day.

- Proper lighting
- Floors and Stairs
  - Handrails
  - Remove or tack rugs/carpeting
  - Clean up spills
- Secure electrical cords
- Remove clutter
- Pets/small children
- Kitchen
- Bedroom
  - Bedside table
- Bathroom



# Mobility Aides (assistive devices)

- Canes
- Walkers
- Wheel  
Chairs



# Footwear

- Proper fit
- Slip-resistant soles
- Low heels

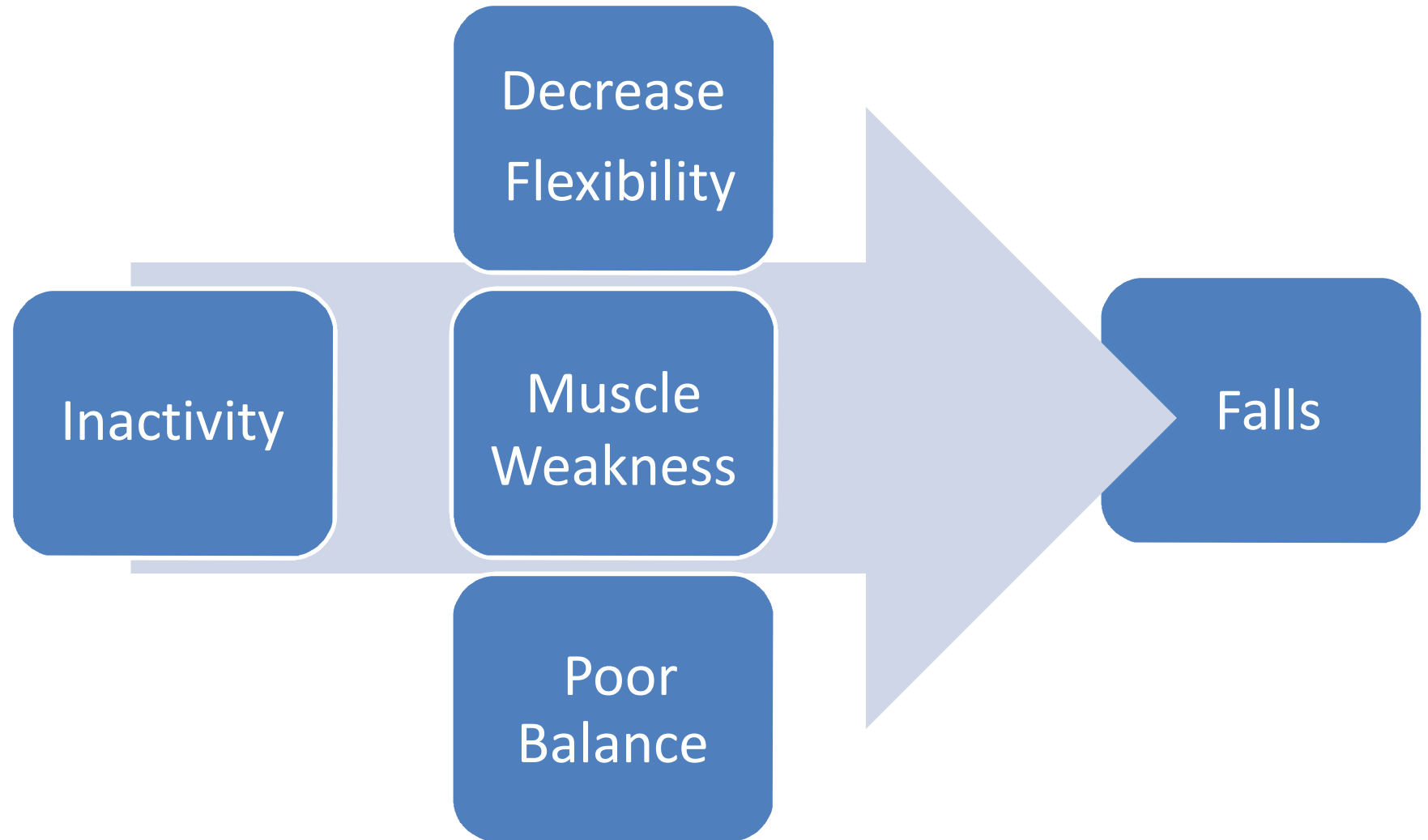


# Medication, Alcohol, and Falls

- **Multiple medications**
  - cause drug interactions and side effects
- **Sedatives**
  - reduce excitability/calm a person
- **Diuretics**
  - “water pills” -- these increase the flow of urine, causing the body to get rid of excess water
- **Antidepressants**
  - treat depression
- **Laxatives**
  - stimulate intestines, causing the body to eliminate waste
- **Alcohol**



# Inactivity and Falls



**Strength, balance, and flexibility can be accomplished through physical activity and exercise, which lead to decreased chances of falling in addition to multiple fitness and health benefits.**

# Strength

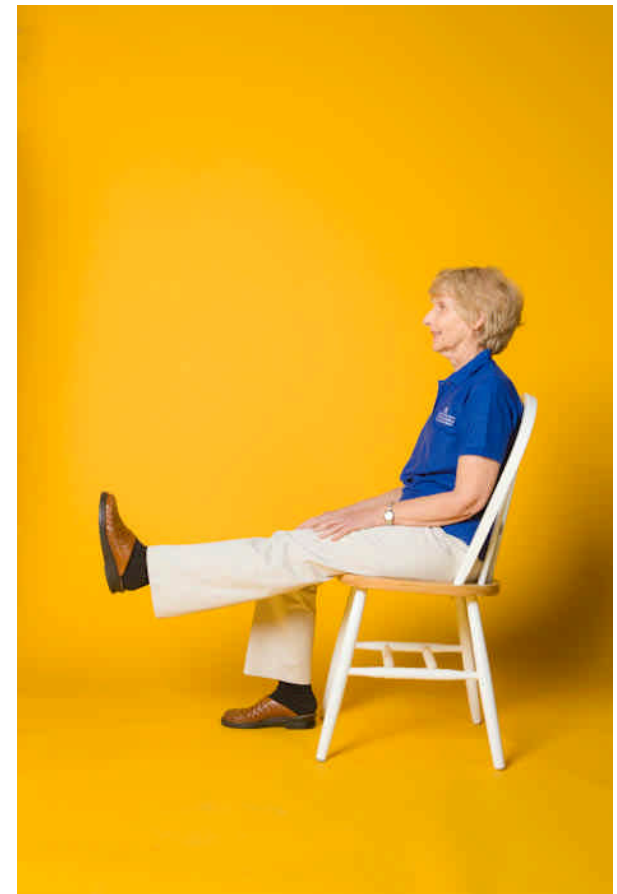
- Strength helps with muscle tone, balance, and it aids mobility.
- Decreased muscle strength is associated with falling.
- 30-40% of muscle mass is lost by age 65.
  - Muscle loss in the legs creates challenges when standing and walking.
- The good news: older adults who strength train are able to increase muscle mass and strength.
- Increased strength leads to greater levels of independence and improvements in the ability to walk and carry out daily activities.





# Strength Exercise: Leg Strengthening

1. Sit in a sturdy chair with your back supported by the chair. Only the balls of your feet and your toes should rest on the floor. Put a rolled bath towel at the edge of the chair under thighs for support. Breathe in slowly.
2. Breathe out and slowly extend one leg in front of you as straight as possible, but don't lock your knee.
3. Flex foot to point toes toward the ceiling. Hold position for 1 second.
4. Breathe in as you slowly lower leg back down.
5. Repeat 10-15 times.
6. Repeat 10-15 times with other leg.
7. Repeat 10-15 more times with each leg.



# Balance

- Weak leg muscles, poor vision, and slow reaction time increase an older adult's poor balance and risk for falling.
- Medical complications, medications, and balance disorders also contribute to poor balance and falls.



# Balance: Stand on One Foot

1. Stand on one foot behind a sturdy chair, holding on for balance.
2. Hold position for up to 10 seconds.
3. Repeat 10-15 times.
4. Repeat 10-15 times with other leg.
5. Repeat 10-15 more times with each leg.



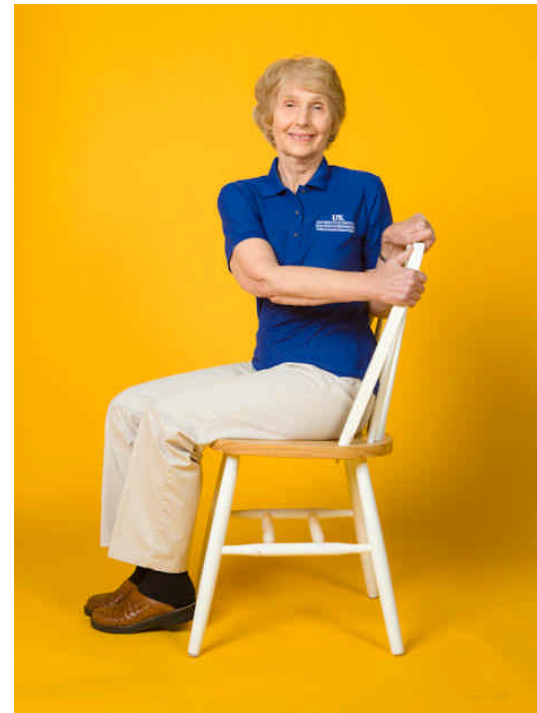
# Flexibility

- Flexible muscles allow you to move smoothly, avoid muscle tension, and protect your body from injury.
- As muscles stiffen and joints get sore with age, older adults begin to lose flexibility.
- Stretching is one way to keep the body flexible.
- Stretching also:
  - improves performance
  - reduces risks of falling and injury
  - reduces muscle soreness and improves posture
  - helps reduce lower back pain
  - increases blood and nutrients to the tissues
  - improves your coordination
  - helps you enjoy exercise and reduce stress



# Flexibility: Back Stretch

1. Sit up toward the front of a sturdy chair with armrests. Stay as straight as possible. Keep your feet flat on the floor, shoulder-width apart.
2. Slowly twist to the left from your waist without moving your hips. Turn your head to the left. Lift your left hand and hold on to the left arm of the chair. Place your right hand on the outside of your left thigh. Twist farther, if possible.
3. Hold the position for 10-30 seconds.
4. Slowly return to face forward.
5. Repeat on the right side.
6. Repeat at least 3-5 more times.



Tip: As you progress, try lifting your left arm and resting it comfortably on the back of the chair. Hold on to the left armrest with your right arm. Repeat on right side.

# A Matter of Balance

- Based on the fear of falling, *A Matter of Balance* is a program that prepares the mind and body for endurance, strength, balance, and stretching exercises.
- The program consists of an 8-session evidence-based falls-management program led by trained volunteer lay leaders.
- Goals:
  - reduce the fear of falling
  - stop the fear of falling cycle
  - increase activity levels among community-dwelling older adults



A MATTER OF  
BALANCE

MANAGING CONCERNS ABOUT FALLS

# Other recommended programs

- Strong Women
- Body Recall
- Tai Chi
- Chronic Disease Self-Management Program



# What To Do If You Fall

- Do not panic.
- Try to stay calm.
- Take several breaths to relax.
- Assess the situation and determine if you are hurt.



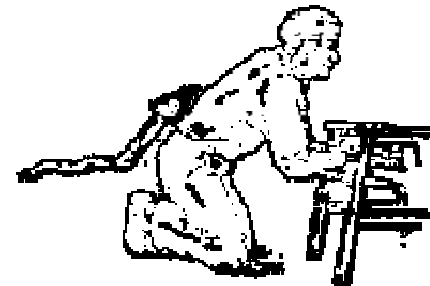
# What To Do If You Fall, cont.

- If you're hurt and cannot get up, ask for help or call 911.
- If you're alone, try to find a tolerable position until help arrives.
- Personal emergency response systems can be helpful.
- Carry a portable phone with you.



# Getting Up From a Fall

- Roll over naturally, turning your head in the direction of the roll.
- If you can, crawl to strong, stable furniture like a chair, and pull yourself up. Approach the chair from the front and put both hands on the seat.
- Slowly, begin to rise. Bend whichever knee is stronger; keep your other knee on the floor.
- Slowly twist around and sit in the chair.



# What **YOU** Can Do to Prevent Falls

- Be physically active.
- Get regular vision checkups.
- Assess the safety of the environment.
- Have your medicines reviewed.
- Have your blood pressure checked when lying and standing.
- Wear safe footwear.
- Know how to properly use mobility aides.
- Educate yourself/family/client.
- Report a fall to your doctor.



# Resources

- CDC Brochures **“What You Can Do To Prevent Falls”** and **“Check for Safety: A Home Fall Prevention Checklist for Older Adults”**
- Websites [www.nofalls.org](http://www.nofalls.org) for fall prevention information and [www.kspan.uky.edu/data](http://www.kspan.uky.edu/data) for county level fall and injury data.
- Cooperative Extension Service in each county has a prepared presentation **“Stand Up for Falling”** for any audience.

# Questions

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